Catalogue of American Amphibians and Reptiles.

Dundee, H.A. 1997. *Bolitoglossa sooyorum.*

Bolitoglossa sooyorum Vial

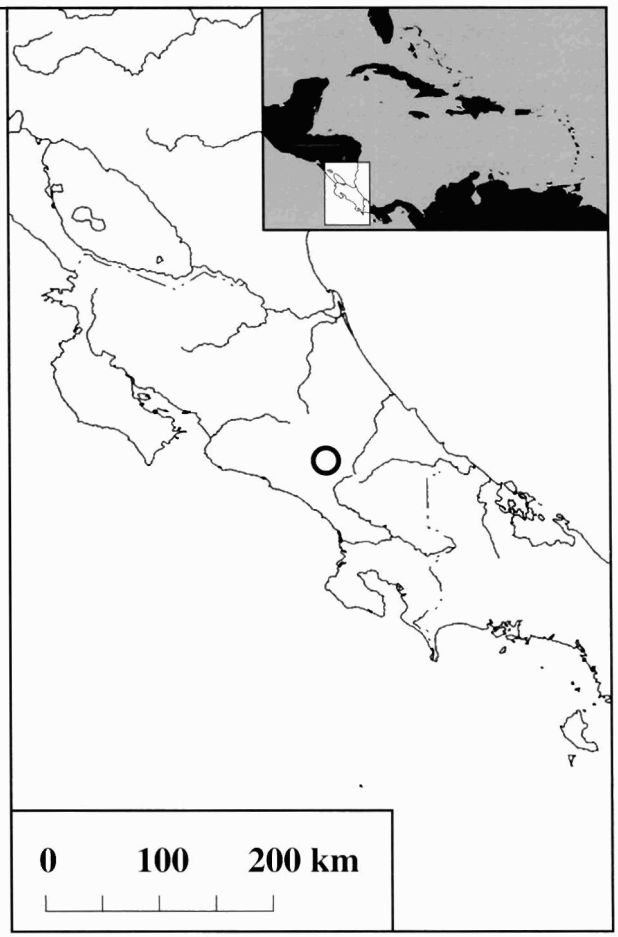
Bolitoglossa sooyorum Vial 1963:89. Type locality, "from the Cordillera Talamanca, Cerro de la Muerte (=Cerro Buena Vista) at 9,000 feet (2,745 meters), 12 miles (19.2 km.) southeast of El Empalme, Provincia de Cartago, Costa Rica." Holotype, University of Southern California USC-CR 2600, now housed at Los Angeles County Museum (LACM) 26768, adult male (65.7 mm SVL, 134 mm TL), collected 22 August 1962 by J.M. Savage and J.L. Vial (not examined by author); 15 paratypes were all collected at same locality as the holotype, five were at USC but are now at LACM, the others are at the University of Kansas Museum of Natural History (KU) 066193–066202. See also Comments.

• **CONTENT.** No subspecies have been described.

• **DEFINITION.** This species is recognizable as a member of the genus *Bolitoglossa* by differing from other tropical salamanders in the absence of a sublingual fold. It is closely related to the *Bolitoglossa subpalmata* group and closely related to *B. marmorea* (Brame 1965). A small species, *B. sooyroum* reaches 71.4 mm SVL and 142.3 mm TL. Females apparently reach a somewhat larger size than males, but both sexes are relatively robust. The snout is blunt and rounded, nostrils and nasolabial cirri are conspicuous. Vomerine and maxillary teeth increase in number in larger specimens, but the vomerine tooth count of the holotype (11-11) is rather low in comparison with others of comparable size. The total maxillary tooth count in adults exceeds 33. Costal groove numbers were not noted in Vial's (1963) data but appear to be 13, as judged from the figure in that account. The limbs are long and slender and meet or overlap up to one costal fold when appressed to side of body. Webbing of fingers and toes is incomplete but reaching approximately 3/4 length of the digits. Digits are flattened and rounded at ends and have slightly developed subdigital pads.

In life the coloration of dorsum of head, trunk, and tail is dark lavender brown with profuse, minute, yellow cream flecks, especially along the lateral margins of the trunk. The dorsal part of the tail has a uniform ground color that is conspicuously interrupted with light blotches. The gular region has a lavender brown wash that may be complete or with a broken patchwork of light blotches. Juveniles are less conspicuously marked.

Sexual maturity apparently is not achieved until a SVL of 30 mm is reached. Each testis consists of one or two lobes. The chromosome number is N = 13.



MAP. Distribution of *Bolitoglossa sooyorum*. The circle represents both the type locality and only area where the species is known.

• **DIAGNOSIS.** *Bolitoglossa sooyorum* differs from other members of the *subpalmata* group found in reasonably proximate highlands. From *B. cerroensis*, *B. sooyorum* differs in having a higher maxillary tooth count (17–79, $\bar{x}$ = 41.8 versus 19–43, $\bar{x}$ = 32.6), fewer costal grooves between appressed limbs (0–1/2 in males versus 0.5–2 and 0–1 in females versus 2, and coloration that is lavender brown versus olive brown with green reticulum. *Bolitoglossa hypacra* has shorter limbs (2.5 costal folds between appressed limbs versus 0–1 in *B. sooyorum*), is dark brown with large yellow spots on the lateral surfaces, and has very little interdigital webbing. *Bolitoglossa subpalmata* (as currently known, but D.W. Wake [pers. comm.] says that the

FIGURE. Adult male *Bolitoglossa sooyorum* from type locality. Photograph courtesy of James L. Vial.

Cordillera de Talamanca population apparently represents a new species) is more robust, has shorter limbs (0.5–4 costal folds between appressed limbs), and, although variable in color (from light to dark on dorsum and venter, with small spots or larger blotches), it is never lavender brown with yellow flecks and small spots. *Bolitoglossa nigriscens*, if recognized as a valid species (see Frost 1985) has shorter limbs (2 1/2 costal folds between appressed limbs), is smaller in maximum size (46.0 mm versus 71.4 mm), and is nearly uniform slate black in color.

• **DESCRIPTIONS.** The sole extensive description is that by Vial (1963). The only additional data appear in keys by Savage (1980) and Savage and Villa (1986).

• **ILLUSTRATIONS.** No previous illustrations of the whole animal have been published. Line drawings of a dorsal view of a front foot and a lateral view of the head appear in Vial (1963).

• **DISTRIBUTION.** This apparently rare species is limited to the type locality and vicinity. The species is a rock-dweller found in talus accumulations in a moist, clayey-loam matrix which usually is covered with decumbent vegetation. Basically the area is an oak forest community. Holdridge (1953) placed the type locality within the Tropical Montane Wet Forest formation. Savage (1980) placed it in the Cordillera de Talamanca.

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** Categorized information includes: **bionumeric code** (Brame et al. 1981); **checklists and groupings** (Brame 1967, 1968; Savage 1973, 1980a, 1980b; Savage and Villa 1986; Villa et al. 1988; Wake and Elias 1983); **comparison with other species** (Vial 1963); generic diagnostic features (Wake and Elias 1983); **geographic zones** (Savage 1966, 1973, 1980a, 1980b; Savage and Villa 1986; Wake and Lynch 1976); **habitat** (Vial 1963, 1968; Wake and Lynch 1976); **keys** (Savage 1980, Savage and Villa 1986); **population size** (Wake 1987); **reproduction** (Vial 1963); **testicular lobation** (Vial 1963, 1968).

• **ETYMOLOGY.** The specific name honors Jean L. and Kirk Van Sooy.

• **COMMENTS.** Savage (1974) stated the type locality in two ways: "Río Humo at Interamerican Highway, 1 km S Chávez, Cánton de El Guarco, Provincia de Cartago: 2860 m" and "12 miles or 15.2 km (by road) SE El Empalme."

Bolitoglosa sooyorum appears to be closely related to *B. marmorea* Tanner and Brame, which occurs on Volcán Chiríqui and highlands in Panamá approximately 100 airline miles (160 miles) southeast of the type locality of *B. sooyorum*. Until salamanders from between the two areas are available, the degree of relationship will remain uncertain.

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